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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,619	07/30/2003	Masaya Okamoto	040894-5946	6129
9629	7590	09/23/2004	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			BRASE, SANDRA L	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/629,619	<b>Applicant(s)</b> OKAMOTO ET AL.	
	<b>Examiner</b> Sandra L. Brase	<b>Art Unit</b> 2852	<i>AN</i>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/30/03</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities.

On line 11 of page 3, "owed by" should be changed to "corresponding to".

On lines 18-19 of page 6, "own member" should be changed to "developing agent carrier".

On line 7 of page 13, "5A and 5B are" should be changed to "5 is an", and "diagrams" should be changed to "diagram".

On line 14 of page 14, "5" should be changed to "50".

On line 19 of page 34, "5A and 5B are diagrams" should be changed to "5 is a diagram".

On line 21 of page 34, "5A" should be changed to "5".

On line 22 of page 34, "15. Fig. 5B is" should be changed to "15, and includes".

On line 7 of page 35, "5A" should be changed to "5".

On line 12 of page 35, "51" should be changed to "55".

On line 16 of page 35, "5B" should be changed to "5".

On line 2 of page 36, "5A" should be changed to "5".

On line 17 of page 37, "5A" should be changed to "5".

Appropriate correction is required.

***Claim Objections***

2. Claims 3, 4, 7 and 14-18 are objected to because of the following informalities.

On line 5 of claim 3, “an elastic latent” should be changed to “a latent”.

On line 5 of claim 7, “the developing agent carrier” should be changed to “a developing agent carrier”.

On line 10 of claim 14, “owns” should be changed to “includes”.

On line 4 of claim 17, “the own” should be changed to “a portion of the”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5-7, 14-16, 19, 22 and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al. (US 6,625,410).

5. Sato et al. (...410) disclose an image forming apparatus comprising: an image carrier (10); an electrostatic latent image forming unit for forming an electrostatic latent image on the image carrier (figure 2); a first contacting unit (13a), which is a developing device for developing an electrostatic latent image formed on the image carrier and which is contacted with respect to the image carrier along a predetermined weight direction; and a second contacting unit (20)

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which is contacted with respect to the image carrier in a wrap shape (figure 2), wherein the predetermined weight direction by the first contacting unit is intersected with the wrap-shaped contact range by the second contacting unit (figure 2). The second contacting unit is provided on the downstream side of a pivotal rotation direction of the image carrier with respect to the first contacting unit (figure 2). The second contacting unit is an elastic belt (col. 4, lines 32-34 and col. 6, lines 35-42), where the elastic belt is followed by receiving driving force produced from the image carrier (col. 4, lines 19-31). The second contacting unit is contacted to the image carrier under predetermined depression force (figure 2). The second contacting unit is a transferring unit including an intermediate transfer member (20) which temporarily holds thereon a toner image formed on the image carrier by the developing agent carrier (col. 5, line 53 – col. 6, line 6; and figure 2). The image forming apparatus includes a portion that both a straight line and a weight direction of the developing device with respect to the image carrier become a substantially straight line, while the straight line connects a contact point of the intermediate transfer member to the image carrier to a center of the image carrier (figure 2). An eccentricity of the image carrier is suppressed by both the intermediate transfer member and the developing device (figure 2). The intermediate transfer member contacts the image carrier via a line (figure 2). The developing unit further includes a plurality of developing rollers (13a, 13b, 13c and 13d), which are developing agent carriers, provided along a circumferential direction thereof in order to develop the electrostatic latent image formed by the electrostatic latent image forming unit to thereby form a toner image, and a desirable developing roller is transported, by pivotal rotation, to a developing position located opposite to the image carrier (figure 2), where an extension of a line which connects a center of the image carrier to a center of the desirable

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developing roller located opposite to the image carrier is positioned within a range where the transferring unit abuts against the image carrier in a wrap shape (figure 2). The desirable developing roller abuts against the image carrier via a predetermined trail, and a direction along which the predetermined member depresses the image carrier via the trail is located within a range where the transferring unit abuts against the image carrier in a wrap shape (figure 2). A method of holding an image carrier comprising the steps of: abutting with respect to a pivotally rotated image carrier (10) along a predetermined direction so as to depress the image carrier (figure 2); depressing the image carrier via a center shaft of the image carrier in predetermined weight along a direction opposite to the predetermined direction (figure 2); and stably holding the image carrier based upon both the depression made along the predetermined direction and the depression made along the direction opposite to the predetermined direction (figure 2). The depression along the predetermined direction is realized by abutting with respect to the image carrier from a circumferential portion of the image carrier in a wrap shape within a predetermined range so as to depress the image carrier (figure 2). The opposite direction corresponds to such a direction along which the depression is made from the circumferential portion toward the center shaft within a range at the circumferential portion of the image carrier, which is formed by an extension of such a straight line passing through the abutting range in the wrap shape and the center shaft (figure 2).

6. Claims 1, 2, 7, 14, 15, 19, 22 and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukao et al. (US 6,445,900).

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7. Fukao et al. (...900) disclose an image forming apparatus comprising: an image carrier (100); an electrostatic latent image forming unit for forming an electrostatic latent image on the image carrier (figure 2); a first contacting unit (401), which is a developing device for developing an electrostatic latent image formed on the image carrier and which is contacted with respect to the image carrier along a predetermined weight direction; and a second contacting unit (501), which is an intermediate transfer member that is part of a transferring unit and which is contacted with respect to the image carrier in a wrap shape (figure 2), wherein the predetermined weight direction by the first contacting unit is intersected with the wrap-shaped contact range by the second contacting unit (figure 2). The second contacting unit is provided on the downstream side of a pivotal rotation direction of the image carrier with respect to the first contacting unit (figure 2). The intermediate transfer member (501) temporarily holds thereon a toner image formed on the image carrier by a developing agent carrier (col. 4, lines 42-45; and figure 2). An eccentricity of the image carrier is suppressed by both the intermediate transfer member and the developing device (figure 2). The developing unit further includes a plurality of developing rollers (401, 402, 403, 404), which are developing agent carriers, provided along a circumferential direction thereof in order to develop the electrostatic latent image formed by the electrostatic latent image forming unit to thereby form a toner image, and a desirable developing roller is transported, by pivotal rotation, to a developing position located opposite to the image carrier (col. 3, line 58 – col. 4, line 17; and figure 2), where an extension of a line which connects a center of the image carrier to a center of the desirable developing roller located opposite to the image carrier is positioned within a range where the transferring unit abuts against the image carrier in a wrap shape (figure 2). The desirable developing roller abuts against

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the image carrier via a predetermined trail, and a direction along which the predetermined member depresses the image carrier via the trail is located within a range where the transferring unit abuts against the image carrier in a wrap shape (figure 2). A method of holding an image carrier comprising the steps of: abutting with respect to a pivotally rotated image carrier (100) along a predetermined direction so as to depress the image carrier (figure 2); depressing the image carrier via a center shaft of the image carrier in predetermined weight along a direction opposite to the predetermined direction (figure 2); and stably holding the image carrier based upon both the depression made along the predetermined direction and the depression made along the direction opposite to the predetermined direction (figure 2). The depression along the predetermined direction is realized by abutting with respect to the image carrier from a circumferential portion of the image carrier in a wrap shape within a predetermined range so as to depress the image carrier (figure 2). The opposite direction corresponds to such a direction along which the depression is made from the circumferential portion toward the center shaft within a range at the circumferential portion of the image carrier, which is formed by an extension of such a straight line passing through the abutting range in the wrap shape and the center shaft (figure 2).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 3, 4, 8, 11-13, 17, 18, 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukao et al. (US 6,445,900) in view of Kasahara et al. (US 5,585,598).

11. Fukao et al. (...900) disclose the features mentioned previously, and disclose the image carrier is a photosensitive drum having an axial center (col. 3, lines 30-31). However, Fukao et al. (...900) do not disclose that the first contacting unit contained in the developing device is the claimed positioning member capable of maintaining a distance between a developing agent carrier and an image carrier. Kasahara et al. (...598) disclose a developing device including a positioning member (116) that contacts an image carrier, where the positioning member is capable of maintaining a constant distance between the image carrier and a developing agent carrier for developing a latent image formed on the image carrier (col. 7, lines 23-29). The positioning member is a tracking member and is provided on a circumference of each of a plurality of developing agent carriers (110Y, 110M, 110C and 110Bk), and is capable of maintaining a distance between a specific developing agent carrier and the image carrier when

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the developing device is pivotally rotated and thus the specific developing agent carrier is located opposite to the image carrier (figures 1, 2, 9 and 10; and col. 7, lines 15-38). The positioning member depresses the image carrier along a predetermined direction when positioning of the developing agent carrier for executing the developing operation is carried out with respect to the image carrier (figures 1 and 2). The positioning member is contacted to the image carrier at a non-image forming portion (figure 9). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed positioning member, as disclosed by Kasahara et al. (...598), so as to contact with the image carrier and to maintain a desired developing gap with an developing agent carrier to form a toner image.

12. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukao et al. (US 6,445,900) in view of Kuriyama et al. (US 6,072,976) and Oohara et al. (US 6,760,564).

13. Fukao et al. (...900) disclose the features mentioned previously, and disclose the second contact member is an intermediate transfer belt and is contacted to the image carrier under predetermined depression force (figure 2), but do not disclose that the intermediate belt is elastic and is followed by receiving driving force produced from the image carrier. Kuriyama et al. (...976) disclose an image forming apparatus including an intermediate transfer belt, where the belt is elastic (abstract; and col. 7, lines 4-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the intermediate transfer belt be elastic, as disclosed by Kuriyama et al. (...976), since such an elastic belt obtains high quality images. Oohara et al. (...564) disclose an intermediate belt is followed by receiving a driving force from an image carrier (col. 4, lines 29-34). It would have been obvious to one of ordinary skill in the

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art at the time of the invention to have the intermediate transfer belt followed by receiving driving force produced from the image carrier, as disclosed by Oohara et al. (...564), since it is well known in the art to have an image carrier drive an intermediate transfer member.

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukao et al. (US 6,445,900) in view of Kasahara et al. (US 5,585,598) as applied to claim 8 above, and further in view of Kuriyama et al. (US 6,072,976).

15. Fukao et al. (...900) in view of Kasahara et al. (...598) disclose the features mentioned previously, and Fukao et al. (...900) disclose the intermediate transfer member is a belt (figure 2), but do not disclose the intermediate belt is elastic. Kuriyama et al. (...976) disclose an image forming apparatus including an intermediate transfer belt, where the belt is elastic (abstract; and col. 7, lines 4-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the intermediate transfer belt be elastic, as disclosed by Kuriyama et al. (...976), since such an elastic belt obtains high quality images.

16. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukao et al. (US 6,445,900) in view of Kasahara et al. (US 5,585,598) and Kuriyama et al. (US 6,760,564) as applied to claim 9 above, and further in view of Oohara et al. (US 6,072,976).

17. Fukao et al. (...900) in view of Kasahara et al. (...598) and Kuriyama et al. (...976) disclose the features mentioned previously, but do not disclose the intermediate transfer member is followed by receiving a driving force produced from the image carrier. Oohara et al. (...564) disclose an intermediate belt is followed by receiving a driving force from an image

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carrier (col. 4, lines 29-34). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the intermediate transfer belt followed by receiving driving force produced from the image carrier, as disclosed by Oohara et al. (...564), since it is well known in the art to have an image carrier drive an intermediate transfer member.

18. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukao et al. (US 6,445,900) in view of Kuriyama et al. (US 6,072,976).

19. Fukao et al. (...900) disclose the features mentioned previously, and Fukao et al. (...900) disclose the intermediate transfer member is a belt (figure 2), but do not disclose the intermediate belt is elastic. Kuriyama et al. (...976) disclose an image forming apparatus including an intermediate transfer belt, where the belt is elastic (abstract; and col. 7, lines 4-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the intermediate transfer belt be elastic, as disclosed by Kuriyama et al. (...976), since such an elastic belt obtains high quality images.

### ***Prior Art***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

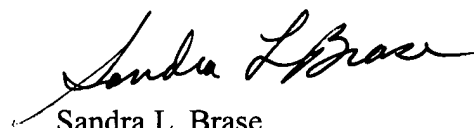
Asakura et al. (US 6,535,705), Maruta et al. (US 6,535,707) and Tamiya et al. (US 6,701,100) disclose an image forming apparatus including a developing device, an image carrier and an intermediate transfer belt.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra L. Brase whose telephone number is (571) 272-2131. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sandra L. Brase  
Primary Examiner  
Art Unit 2852

September 20, 2004